



BRITISH TUNNELLING SOCIETY

Thursday 14th November 2019 at 6.00pm

At the

INSTITUTION OF CIVIL ENGINEERS
ONE GREAT GEORGE STREET, WESTMINSTER, LONDON SW1P 3AA

The BTS Harding Memorial Lecture 2019

Innovations for Tunnels:

A Construction Company's View

Thibaut Lockhart – Bouygues Construction



How will Robotics and Digitalization shape the future of our tunnel industry?

On three recent tunnel projects in Hong Kong, Bouygues Construction has developed and implemented innovative methodologies and tools to overcome major challenges that always come with mega-scale projects.

- A new approach for the maintenance of the TBM cutterhead
- The use of a mechanized solution for the realization of cross passages
- Operation of extra-large TBMs on the Tuen Mun chek Lap Kok (17.56m, 14m) and Liantang projects (14m), with robotic tools developed for specific tasks
- Variable density TBMs to successfully handle challenging ground conditions with shallow cover on MTR Shatin Central new metro line (SCL1128 project)
- Use of 'big data' and specialized algorithms to back-analyse and predict the TBM behaviour

The key driver behind these innovations is first and foremost safety and risk mitigation, but it turns out that these novelties actually brought significant improvements in operational performance as a side effect. A new era of innovation for our tunnelling industry is being explored - what will come next?

Tea and biscuits will be available at 5:30pm

Advance booking not required

In case of any query please contact; The Secretary, BTS Tel: 020 7665 2229

or e-mail: bts@ice.org.uk

or visit: <http://www.britishtunnelling.org.uk>